entered by the BCDS into a database and analyzed using descriptive statistics and graphing techniques. Daily values are analyzed using a variation of the Shewhart control chart method. Graphs have four components: (1) daily data plotted for each syndrome, (2) an average of all values plotted to date, (3) upper and lower confidence levels (99.7%) for the average, and (4) upper statistical control limits (99.7%) for daily data. Approximately two or three triggered investigations occur per week. Data from 12 of the 16 hospitals showed a significant trend in fevers during February 2002, mirroring data from the state's Influenza Sentinel Surveillance Network during the same weeks. Several of the hospitals also showed an increase in rashes in the summer that corresponded to poison ivy and Rhus dermatitis season. No large-scale community outbreaks have occurred since the system's inception to test its ability to detect naturally occurring outbreaks.

Identification and Investigation of Disease Outbreaks by ESSENCE

Kendall Brown, Julie Pavlin, Jay Mansfield, Eugene Elbert, Virginia Foster, and Patrick Kelley

Department of Defense Global Emerging Infections System, Silver Spring, Maryland

The Department of Defense Global Emerging Infections System (DoD-GEIS) has developed a prototype system for the early detection of infectious disease outbreaks at military treatment facilities. The Electronic Surveillance System for the Early Notification of Community-Based Epidemics, or ESSENCE, was implemented in 1999 as a pilot project for military sites within the National Capital Area, which encompasses Virginia, parts of Maryland, and the District of Columbia. It monitors illnesses by grouping similar *International Classification of Diseases, 9th Revision, Clinical Modification* (*ICD-9-CM*) codes into seven syndromes. Data collection begins with the provider completing the standard ambulatory data record. These data are coded through an interface of the Composite Healthcare System and then transmitted to a centralized server. They are then downloaded to the ESSENCE Web site and updated several times a day. Statistical tools using autoregressive analysis and Global Information System mapping indicate how abnormal a particular clinic day may be when compared to the previous 6 weeks of data for the same day of the week. These tools are used to prioritize the clinics from most to least aberrant within each of the seven syndrome groups. We show examples of how this surveillance system has detected several outbreaks, including simultaneous occurrences at different medical treatment facilities. Some of the outbreaks detected were the result of miscoding. We also show how this system has led to more accurate reporting of Ambulatory Data System information.

The Biosurveillance Analysis, Feedback, Evaluation, and Response (B-SAFER) System

J. C. Brillman,[1] E. L. Joyce,[2] D. W. Forslund,[2] R. R. Picard,[2] E. Umland,[3] F. Koster,[1] W. C. Sailor,[2] S. L. Judd,[2] P. Froman,[1] S. Kellie,[1] D. Kesler,[1] K. B. Nolte,[1] J. E. George,[2] K. Bersell,[3] S. Castle,[3] and B. Albanese[1,3]

[1]*University of New Mexico School of Medicine,* [2]*Los Alamos National Laboratory,* [3]*New Mexico Department of Health*

B-SAFER (Biosurveillance Analysis, Feedback, Evaluation, and Response) is a surveillance information system to collect health information from a variety of sources and analyze the data for conditions, including bioterrorism, that may be of public health concern. The following information is collected within 24–36 hours: clinical data elements from 6 of 8 local emergency departments (EDs) and from emergency medical services (EMS) reports; admission, discharge, and transfer logs (chief complaints and demographics); hospital utilization data; calls to the regional poison center for drug information; laboratory test requests;